



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

D350-636-012
Job Sheet 178945



Part No: D350-636-012

Job Qty: 1 ea

Part Name: Skidtube RH, Std Wearplates, DART (Apical) Cylindrical/Aerazur Float Comp.



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 6/11/18

Job Tracking No:

Due Date: 7/6/18

Created By: Marie Lajeunesse

Type: Stock

Description:

Note: DWG D3492 REV E SHEET 1, D2750-042 REV G SHEETS 1,2,5,9 IPP Rev:I 02.09.25 IPP Rev:J 06-03-23 As per Rev D IPP Rev:K 06-07.13 As per dsi9343 IPP Rev:L 07-07-28 Added SS Wearplates(Rev E) JLM Verf:EC IPP Rev:M 08-04-22 DD verified:EC IPP Rev:N 08-09-23 revf DD verified:ec IPP Rev:O 09-02-06 per PAR09-010 DD verf:EC IPP Rev:P 10.06.22 revise seq110 DD verf:EC IPP Rev:Q 10.10.01 as per IIN revH DDverf:EC IPP REV:R 13.08.27 PER ECN13-594 DD VERF:JLM

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	1 Ea	7/6/18	7/6/18	0.00	0.00	Start Up Skidtubes-1		DD
110	Skidtubes	1 pcs	7/6/18	7/6/18	0.00	4.36	Skidtubes-4		DD, BE
120	QC	1 pcs	7/6/18	7/6/18	0.00	0.00	QC10		38 DAS
130	QC	1 pcs	7/6/18	7/6/18	0.00	0.00	QC5		9-89 38
140	HandFinish	1 pcs	7/6/18	7/6/18	0.00	0.91	HandFinish1		DR 18/09/10
150	QC	1 pcs	7/6/18	7/6/18	0.00	0.00	QC7-2		Mab
160	Skidtubes	1 pcs	7/6/18	7/6/18	0.00	4.36	Skidtubes-1		DD
170	QC	1 pcs	7/6/18	7/6/18	0.00	0.00	QC10		38 DAS
180	QC	1 pcs	7/6/18	7/6/18	0.00	0.00	QC5		38 38
190	HandFinish	1 pcs	7/6/18	7/6/18	0.00	0.91	HandFinish2		DR 18/09/26
200	SprayPaint	1 pcs	7/6/18	7/6/18	0.00	0.69	Spray Paint		OCT 3 0 2018
205	Outsource	1 pcs	7/6/18	7/6/18			ATE003-VC		OCT 23 2018
210	QC	1 pcs	7/6/18	7/6/18	0.00	0.00	QC14		18-10-30
230	HandFinish	1 pcs	7/6/18	7/6/18	0.00	0.91	HandFinish4		DAS
240	QC	1 pcs	7/6/18	7/6/18	0.00	0.00	QC5		OCT 31 2018 68
250	Packaging	1 pcs	7/6/18	7/6/18	0.00	0.00	Packaging1-3		NOV 08 2018 9-89
260	QC	1 pcs	7/6/18	7/6/18	0.00	0.00	QC4		BB 69 NOV 12 2018
270	Packaging	1 pcs	7/6/18	7/6/18	0.00	0.00	Packaging3-1		BB 9-89 NOV 12 2018
275	DC	1 pcs	7/6/18	7/6/18	0.00	0.00	DC		9-89
280	QC21-FG	1 Ea	7/6/18	7/6/18	0.00	0.00	QC21		

Part Op 110 - 1- Pick D2600-3 Bent Drill pilot holes as per Dwg D2750 sheet 4 (D2750-2 details). Drill using drill Jig DT8150 & Descriptions: DT8863A for second side only DT8863B for first side (detail K) 4- Locate DT8329 off of blade fitting bolt holes and drill pilot holes for blade fitting. Open to 0.500" using hole saw. VERIFY AND RECORD FWD BEND ANGLE. 6- Drill pilot holes for wearplates as per Dwg D2750 using DT8108 open to 0.297". 7- Open up holes of Detail J to 0.297" (total of 2 holes per side) 8- Weld D2744 Cap as per Dwg D2750 and QSI 004. Fill grooves in bend left from bending as per QSI 004 9- Grind welds flush as per Dwg D2750

160 - 1- Open up holes of Detail L using hole saw and ground handling to 0.625" (total of 8 holes per side) D2750. 2- Open up holes of Detail K using hole saw to 0.750" (total of 4 holes per side) as per dwg D2750. 3- Chamfer holes using uni-bit to .500" (4 per Side) 4- Chamfer holes of Detail K, L, ground handling and float holes (welding instructions on sheet 9) 5- Deburr and blow out all chips from inside of tube 6- Prepare tube for alodine as required. 7- Bond web D2739 in place as per QSI 015, let cure for 12hrs. A/R Sikaflex-291 exp. date: _____ **ATTN: USE I-BEAM LOCATION AID (BLADE FITTING)*** 8- Weld spacers

2058 Outsource Atelier 00041427 OCT 23 2018 10:44 AM

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____		Step #: _____		QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation				Disposition			
				Completed By			
				Lead hand / Supervisor Approval Verification			
				QC / QA Coordinator Approval			

DAK
AEROSPACE

Container No: S107590



Part: D350 - 636 - 012

Job No: 178945

Serial No/Batch: S1075

Revision:

Inspector:

Exp Date:

Instructions: TC STC SH99 - 7

FAULT CATEGORY

☐ Defect	☐ Power Loss/Surge	☐ Positioned Wrong
☐ Incomplete/Unqualified	☐ Folio/Program	☐ Outside Dimensions
☐ Incomplete/Unclear	☐ Grain	☐ Over/Under tolerance
	☐ Weld	☐ Part Incorrect
	☐ Wrong Stock Pulled	☐ Part Lost/Missing
	☐ Out of Sequence	☐ Part Moved
	☐ Off-set	☐ Dr
	☐ Mislabeled	☐ Fi
	☐ Fit/Function	☐ M
	☐ Misaligned/off center	☐

and D2743 as per dwg D2750 & QSI004 (welding instructions on sheet 9) A/R Aluminum Rod batch: 138834 9- A section AP-AP drill out x-bolt spacer to 0.404" 10-Grind welds flush as per Dwg D2750 11- Spot face ground handling holes section (total of 4 places per side) as per dwg D2750 12- Deburr holes, ensure tube is free of all scratches before sending to paint.

180 - ***VERIFY C'BOARD IS GOOD***

190 - Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch.

200 - 1- PRIME AS PER DWG AND QSI 005 4.2 PRIMER PRC DESOTO 515X349 BATCH: _____ 2- PAINT WHITE AS PER DWG AND QSI 005 4.2 PAINT BATCH: _____

210 - Inspect for foreign object per QSI 024

230 - 1-Install inserts as per dwg D2750 2-Inspect for Foreign Objects 3-Install blade fitting D3488-042 wearshoes and ground handling hardware as per dwg D2750 SIKA FLEX 241 BATCH: 1138943 EXP DATE: 14-03

4-assemble o'ring to plug as per dwg D3492 and apply o'ring lube A/R 55-o'ring lube batch: 1138243 5-Coat all exposed fasteners with "LPS Procyon" batch: 11133690

270 - Package as per PPP D350-636-012

275 - record fwd angle: 89.8 Photocopy blue file and type labels per PPP D350-636-012 CHG 007

Job BOM				
Part / Item	Component Name	Quantity	Operation	Container
D2600-3-BENT-RH	Extrusion Bent RH	1 Ea (1 ea)	90-Start up Operation	5081485
D2744	Cap	1 Ea (1 ea)	110-Skiddtubes	50604799
D2739	350 I-Beam	1 Ea (1 ea)	160-Skiddtubes	5080818
D2743	Crossbolt Spacer	8 Ea (8 ea)	160-Skiddtubes	5090612
D3490-1	Cross Bolt Spacer	4 Ea (4 ea)	160-Skiddtubes	5082748
D3490-3	Cross Bolt Spacer	4 Ea (4 ea)	160-Skiddtubes	5107862
ALS4-1032-225	Rivnut	38 Ea (38 ea)	230-HandFinish	5058139
AN3C5A	Bolt	34 Ea (34 ea)	230-HandFinish	5095211
AN3C6A	Bolt	4 Ea (4 ea)	230-HandFinish	5649457
AN6C44A	Bolt	4 Ea (4 ea)	230-HandFinish	5691818
AN8C35A	Bolt	1 Ea (1 ea)	230-HandFinish	5006333
D2745	Bushing	8 Ea (8 ea)	230-HandFinish	5163997
D3488-042	Blade Fitting RH	1 Ea (1 ea)	230-HandFinish	5093460
D3492-1	Plug	8 Ea (8 ea)	230-HandFinish	5107288
D3492-3	Plug	8 Ea (8 ea)	230-HandFinish	5107030
D3535-25	Wearplate Center	1 Ea (1 ea)	230-HandFinish	507987
D3536-25	Gasket Center	1 Ea (1 ea)	230-HandFinish	5115017
D3537-1	Wearpad <u>5083 40x25</u>	3 Ea (3 ea)	230-HandFinish	5081682
D3631-1	Washer	8 Ea (8 ea)	230-HandFinish	5658402
D3791-1	Wearpad	1 Ea (1 ea)	230-HandFinish	5098605
D3793-1	Wearplate Fwd	1 Ea (1 ea)	230-HandFinish	5089342
D3793-3	Wearplate Aft	1 Ea (1 ea)	230-HandFinish	5089463
D3794-1	Gasket Fwd	1 Ea (1 ea)	230-HandFinish	5088630
D3794-3	Gasket Aft	1 Ea (1 ea)	230-HandFinish	5081739
MS21043-6	Nut	4 Ea (4 ea)	230-HandFinish	5658146
MS21083C8	Nut	1 Ea (1 ea)	230-HandFinish	5090633
NAS1149C0332R	Washer	38 Ea (38 ea)	230-HandFinish	5089462
NAS1149C0832R	Washer	1 Ea (1 ea)	230-HandFinish	5076017-2
NAS1515H3L	Washer	4 Ea (4 ea)	230-HandFinish	5083559
NAS1611-010	O-Ring	8 Ea (8 ea)	230-HandFinish	5106792
NAS1611-013	O-Ring	8 Ea (8 ea)	230-HandFinish	5657652
AN8C21A	Bolt	2 Ea (2 ea)	250-Packaging	5098514
D2741	Replacement Blade	1 Ea (1 ea)	250-Packaging	5082286
D3493-1	Washer	2 Ea (2 ea)	250-Packaging	512583
D3532-1	Spacer	2 Ea (2 ea)	250-Packaging	5090421
MS21083C8	Nut	2 Ea (2 ea)	250-Packaging	5034401x1 5083 51
NAS1149D0863J	Washer	2 Ea (2 ea)	250-Packaging	5084248

Job Allocations				
Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation	D2600-3-BENT-RH	1	11	0
110-Skiddtubes	D2744	1	77	0
160-Skiddtubes	D2739	1	9	0
	D2743	8	78	0
	D3490-1	4	124	0
	D3490-3	4	103	0

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : _____					

230-HandFinish

ALS4-1032-225	38	4,690	0
AN3C5A	34	1,863	0
AN3C6A	4	432	0
AN6C44A	4	323	0
AN8C35A	1	55	0
D2745	8	57	0
D3488-042	1	9	0
D3492-1	8	328	0
D3492-3	8	159	0
D3535-25	1	15	0
D3536-25	1	22	0
D3537-1	3	116	0
D3631-1	8	875	0
D3791-1	1	27	0
D3793-1	1	20	0
D3793-3	1	20	0
D3794-1	1	46	0
D3794-3	1	20	0
MS21043-6	4	208	0
MS21083C8	1	109	0
NAS1149C0332R	38	5,937	0
NAS1149C0832R	1	447	0
NAS1515H3L	4	171	0
NAS1611-010	8	509	0
NAS1611-013	8	405	0
AN8C21A	2	102	0
D2741	1	78	0
D3493-1	2	43	0
D3532-1	2	26	0
MS21083C8	2	109	0
NAS1149D0863J	2	93	0

250-Packaging

Part Specifications

Specifications could not be found.

Plex 6/11/18 10:44 AM Dart.lajeunesse.marie

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																																
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OTHER :																																																																				

QTY -041	QTY -042	QTY -043	QTY -044	PART NUMBER	DESCRIPTION
X				D2750-041	350 SKIDTUBE ASSEMBLY, LH
	X			D2750-042	350 SKIDTUBE ASSEMBLY, RH
		X		D2750-043	350 SKIDTUBE ASSEMBLY, LH
			X	D2750-044	350 SKIDTUBE ASSEMBLY, RH
1	1	1	1	D2739	WEB
8	8	8	8	D2743	SPACER
1	1	1	1	D2744	CAP
8	8	8	8	D2745	BUSHING
1				D2750-1	SKIDTUBE WELDMENT, LH
	1			D2750-2	SKIDTUBE WELDMENT, RH
		1		D2750-3	SKIDTUBE WELDMENT, LH
			1	D2750-4	SKIDTUBE WELDMENT, RH
1		1		D3488-041	BLADE FITTING, LH
	1		1	D3488-042	BLADE FITTING, RH
4	4	4	4	D3490-1	SPACER
4	4			D3490-3	SPACER
		4	4	D3490-5	SPACER
8	8	8	8	D3492-041	PLUG ASSEMBLY
8	8			D3492-043	PLUG ASSEMBLY
		8	8	D3492-045	PLUG ASSEMBLY
1	1	1	1	D3535-25	WEARSHOE
1	1	1	1	D3536-25	GASKET
3	3	3	3	D3537-1	WEARPAD
8	8	8	8	D3631-1	WASHER
1	1	1	1	D3791-1	WEARPLATE
1	1	1	1	D3793-1	WEARSHOE
1	1	1	1	D3793-3	WEARSHOE
1	1	1	1	D3794-1	GASKET
1	1	1	1	D3794-3	GASKET
38	38	38	38	ALS4-1032-225	INSERT (OR ALS7-1032-225, AKS4-1032-225, AELS-1032-225)
34	34	34	34	AN3C5A	BOLT
4	4	4	4	AN3C6A	BOLT
4	4	4	4	AN6C44A	BOLT
1	1	1	1	AN8C35A	BOLT
38	38	38	38	AN960C10L	WASHER
1	1	1	1	AN960C816L	WASHER
4	4	4	4	MS21043-6	NUT
1	1	1	1	MS21083C8	NUT
4	4	4	4	NAS1515H3L	WASHER

GENERAL NOTES:

- MATERIAL: MAKE D2750-1/-2/-3/-4 FROM D2600-3 EXTRUSION (INITIAL LENGTH = 120.0).
- FINISH: ACID ETCH, ALODINE ASSEMBLY PER DART QSI 005 4.1 PRIOR TO INSTALLING D2739 WEB.
 STANDARD: PRIME (REF. 4.2.1.3.3) AND PAINT WHITE PER DART QSI 005 4.2
 OPTIONAL: POWDER COAT WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3
 BLACK ANTI-SKID PAINT AS INDICATED TO 1.0 ABOVE SKIDTUBE CENTER-LINE PER DART 005 4.4 (OPTIONAL).
- TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- UNITS: INCHES UNLESS OTHERWISE NOTED
- BREAK SHARP EDGES: N/A
- IDENTIFICATION: N/A
- WEIGHT: D2750-041/-042/-043/-044 = 26.5 LBS
- WELD PER DART QSI 004
- INSTALL ALS4-1032-225 INSERTS AFTER FINISH AS INDICATED. DRILL 'F' SIZE HOLES ($\phi 0.297$) FOR WEARSHOE INSERTS
- FINAL CONFIGURATION SHOULD HAVE THE FOLLOWING MINIMUM MECHANICAL PROPERTIES:
 MINIMUM YIELD TENSILE STRENGTH = 35 KSI
 MINIMUM ULTIMATE TENSILE STRENGTH = 38 KSI
- COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF
 FINISH WITH MEK DEGREASER.
- SPACER AND PLUG INSTALLED SAME AS SECTION AJ-AJ EXCEPT HORIZONTAL
- SPACER AND PLUG INSTALLED SAME AS SECTION AP-AP EXCEPT HORIZONTAL

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WD

G	CORRECTED TOLERANCE ON $\phi 0.500$ THRU HOLE: IS $+0.010/-0.000$, WAS $+0.100/-0.000$ (ZN B3-4, B2-5); ADD VIEW TO CONTROL FWD BEND ORIENTATION (ZN D-1-4/-5/-6/-7); UPDATED FINISH OPTIONS; INSIDE OF TUBE NO LONGER SPRAYED WITH LPS-3. REASON: PAR13-276 AND NCR13-2757	MB	13.07.11
F	INCORPORATE DSI 9413; QTY (3) D3537-1 WAS QTY (5) (ZN C8-1); D3791-1/-3 REPLACES D3535-13/-35 (ZN C8-1); D3794-1/-3 REPLACES D3536-13/-35 (ZN B8-1); ADD D3791-1 (ZN C8-1); WEARSHOE HOLES UNDER FWD/AFT SADDLE REMOVED (8 PL). WEARSHOE HARDWARE QTY UPDATED (ZN B8-1); D3488-041/-042 HARDWARE UPDATED (ZN C1-8, 9, 10, 11); ADD NOTE 12 AND 13 (ZN AG-1); REASON: REF. NCR 08-043	PH	08.07.16
E	CHANGE TO STAINLESS STEEL WEARPLATES; ADD RUBBER GASKETS; CHANGE INSERTS; ADD D3631-1; REMOVE QTY (38) NAS1515H3L; REMOVE QTY (10) NAS1515H8L; REMOVE D2741, QTY (2) AN960C816; REMOVE QTY (2) MS21083C8	CB	07.05.17
D	ADD HOLES AND SPACERS FOR APICAL FLOATS; INCORPORATE DEO 9133/9157	PH	06.01.05
C	ADD D2750-3/D2750-4; INCORPORATE D2738 AND D2740	CP	98.11.18
B	CHANGE MS24694-S293 TO AN8-16A	CP	98.09.01
A	NEW ISSUE	DS	98.04.16
REV.	DESCRIPTION	BY	DATE
DESIGN	MM		
DRAWN			
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	13.07.11		

DART AEROSPACE USA, INC.

KENT, WA

DRAWING NO.

D2750

REV. G

SHEET 1 OF 11

TITLE

350 SKIDTUBE ASSEMBLY

SCALE

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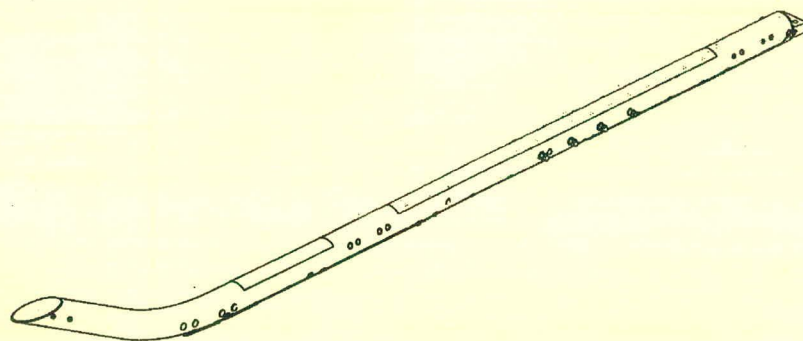


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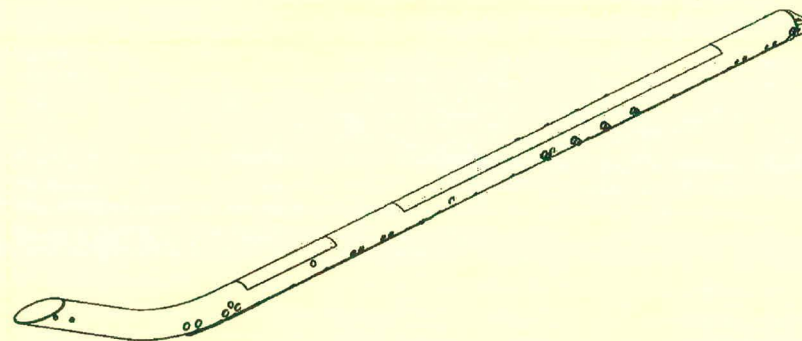
QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER :							
Misidentified ☐	Past Due ☐								



D2750-041 350 SKIDTUBE ASSEMBLY, LH



D2750-042 350 SKIDTUBE ASSEMBLY, RH

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DE APPR.			NTS
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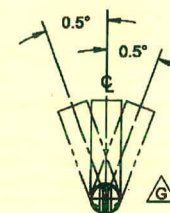
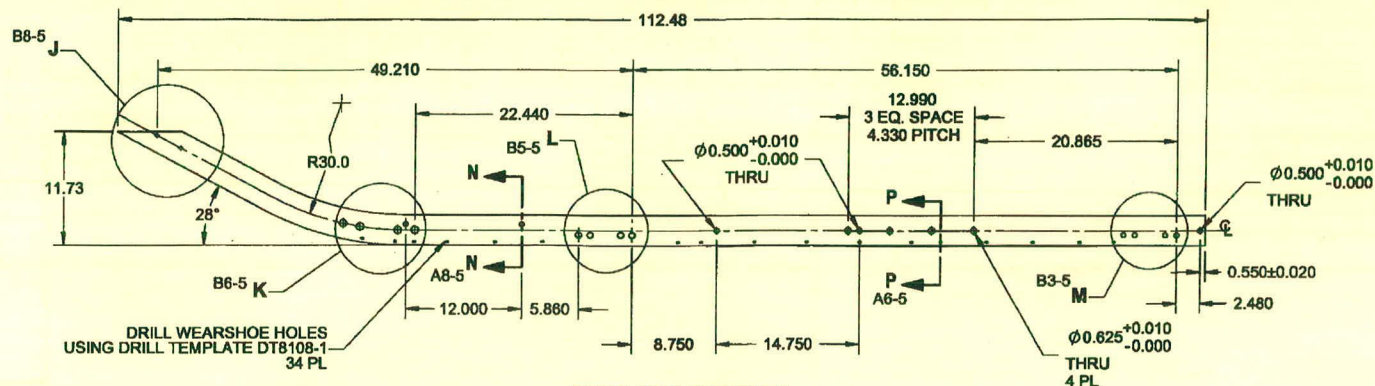


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QA Closed: _____ Date: _____

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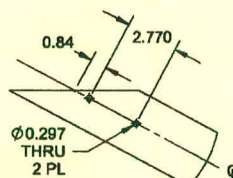
Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation			Disposition		
			Completed By		
			Lead hand / Supervisor Approval Verification		
			QC / QA Coordinator Approval		
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER :					



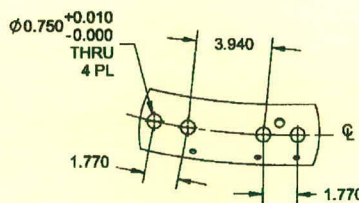
OUTBD

MAX ALLOWABLE
TWIST ON FWD BEND
(VIEWED LOOKING FWD)

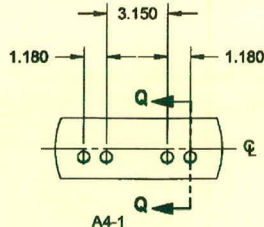
D2750-2 RH SKIDTUBE



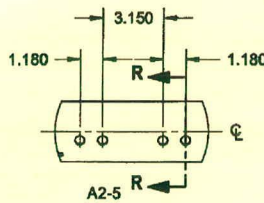
DETAIL J
SCALE 2X



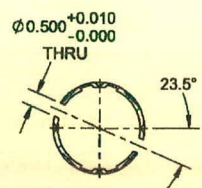
DETAIL K
SCALE 2X



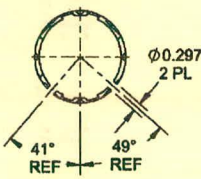
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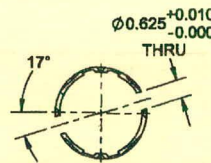
DETAIL M
SCALE 2X



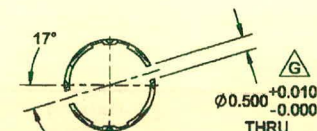
SECTION N-N
SCALE 3X, 2 PL



SECTION P-P
SCALE 3X, 17 PL



SECTION Q-Q
SCALE 3X, 4 PL



SECTION R-R
SCALE 3X, 4 PL

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MFG. APPR.		TITLE 350 SKIDTUBE ASSEMBLY	SHEET 5 OF 11
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WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

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Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																																		
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DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																																		
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Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER **PO041427**

Supplier: ATE003-VC
Atelier Debosselage
358 Principale
Calumet
QC
J0V 1B0 Canada
Phone: 819 242 5633

PO No: PO041427

PO Date: 10/23/18

Due Date: 10/26/18

Purchase Order

Revision:

Revision Date:

Ship-To Contact: Phone:

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Via: Ground

Pymt Terms: Net 30

Freight Terms:

Special Comments:

Items

Line Item	Job	Part	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	182676	D350-636-015	1- PRIME AS PER DWG AND QSI 005 4.2.1.3.3 PRIMER PRC DESOTO 515X349 BATCH: _____ 2- PAINT WHITE AS PER DWG AND QSI 005 4.2 PAINT BATCH: _____	Firmed	-	10/26/18	1 pcs	0 pcs	1 pcs	\$225.00/pcs	\$225.00
2	178945	D350-636-012	1- PRIME AS PER DWG AND QSI 005 4.2 PRIMER PRC DESOTO 515X349 BATCH: _____ 2- PAINT WHITE AS PER DWG AND QSI 005 4.2 PAINT BATCH: _____	Firmed	-	10/26/18	1 pcs	0 pcs	1 pcs	\$225.00/pcs	\$225.00
3	182677	D350-636-016	1- PRIME AS PER DWG AND QSI 005 4.2 PRIMER PRC DESOTO 515X349 BATCH: _____ 2- PAINT WHITE AS PER DWG AND QSI 005 4.2 PAINT BATCH: _____	Firmed	-	10/26/18	1 pcs	0 pcs	1 pcs	\$225.00/pcs	\$225.00
4	180932	D206-642-541	Make sure Nut Plate Thread is protected using paint screw. 1- PRIME AS PER DWG AND QSI 005 4.2 PRIMER PRC DESOTO 515X349 BATCH: _____ 2- PAINT WHITE AS PER DWG AND QSI 005 4.2 PAINT BATCH: _____	Firmed	-	10/26/18	1 pcs	0 pcs	1 pcs	\$225.00/pcs	\$225.00



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER **PO041427**

Items											
Line Item	Job	Part	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
	180935		<i>1x</i> OCT 24 2018	Firmed	-	10/26/18	1 pcs	0 pcs	1 pcs	\$225.00/pcs	\$225.00
	167711		<i>1x</i> OCT 25 2018	Firmed	-	10/26/18	1 pcs	0 pcs	1 pcs	\$225.00/pcs	\$225.00
Sub Total:							3	0	3		\$675.00

Grand Total: \$1,350.00

Order Notes

Procurement Quality Clauses

A005 right of entry
A012 chemical and physical test report
A016 personnel qualification
A017 raw material identification (as applicable)

A022 Apical Processing
A024 process certifications
A026 certification of material conformance

A041 quality management system
A042 dart notification by supplier
A043 retention of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program

A049 supplier awareness

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

REFERENCE ONLY

5.0 PARTS LIST

D350-636-011/-012/-013/-014 SKIDTUBES AT CHG 008 AND SUBSEQUENT
D350-636-021/-022 SKIDTUBES AT CHG 001 AND SUBSEQUENT

Item	Qty -011	Qty -012	Qty -013	Qty -014	Qty -021	Qty -022	Qty -049	Part Number	Description
	X							D350-636-011	SKIDTUBE INSTALLATION, LH, AERAZUR/DART CYLINDRICAL FLOAT COMPATIBLE
		X						D350-636-012	SKIDTUBE INSTALLATION, RH, AERAZUR/DART CYLINDRICAL FLOAT COMPATIBLE
			X					D350-636-013	SKIDTUBE INSTALLATION, LH AIRCUIRER/DART TRI-BAG FLOAT COMPATIBLE
				X				D350-636-014	SKIDTUBE INSTALLATION, RH AIRCUIRER/DART TRI-BAG FLOAT COMPATIBLE
					X			D350-636-021	SKIDTUBE INSTALLATION, LH, STD
						X		D350-636-022	SKIDTUBE INSTALLATION, RH, STD
							X	D350-636-049	WEARSHOE KIT
1	1							D2750-041	SKIDTUBE ASSEMBLY, LH
1		1						D2750-042	SKIDTUBE ASSEMBLY, RH
1			1					D2750-043	SKIDTUBE ASSEMBLY, LH
1				1				D2750-044	SKIDTUBE ASSEMBLY, RH
1					1			D2750-051	SKIDTUBE ASSEMBLY, LH
1						1		D2750-052	SKIDTUBE ASSEMBLY, RH
*1	1							D2750-1	SKIDTUBE WELDMENT, LH
*1		1						D2750-2	SKIDTUBE WELDMENT, RH
*1			1					D2750-3	SKIDTUBE WELDMENT, LH
*1				1				D2750-4	SKIDTUBE WELDMENT, RH
1					1			D2750-5	SKIDTUBE WELDMENT, LH
1						1		D2750-6	SKIDTUBE WELDMENT, RH
**2	8	8	8	8	8	8		350A41-1027-20	SCREW
**3	8	8	8	8	8	8		23119AG120LE	WASHER
**4	8	8	8	8	8	8		22541N120	NUT
*5	1	1	1	1	1	1		AN8C35A	BOLT
*6A	1	1	1	1	1	1		NAS1149C0832R	WASHER
*7	1	1	1	1	1	1		MS21083C8	NUT
8	1		1		1			D3488-3	BLADE FITTING, LH
8		1		1		1		D3488-4	BLADE FITTING, RH
9	1	1	1	1	1	1		D2741	BLADE
10	2	2	2	2	2	2		AN8C21A	BOLT
11	2	2	2	2	2	2		NAS1149DO863J	WASHER
11C							8	D3672-1	WASHER
12	2	2	2	2	2	2		MS21083C8	NUT
*14	4	4	4	4	4	4		AN6C44A	BOLT
*15	8	8	8	8	8	8		D2745	BUSHING
*16	4	4	4	4	4	4		MS21043-6	NUT
*17	8	8	8	8	8	8		D3631-1	WASHER
*18	4	4	4	4	4	4		ALS4-1032-225	INSERT
*19	4	4	4	4	4	4		AN3C6A	BOLT
*20A	4	4	4	4	4	4		NAS1149C0332R	WASHER
*20B	4	4	4	4	4	4		NAS1515H3L	WASHER
*22	3	3	3	3	3	3	3	D3537-1	WEARPAD

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Revision: K
Date: 18.04.04

REFERENCE ONLY

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NOTHING TO REPORT

Item	Qty -011	Qty -012	Qty -013	Qty -014	Qty -021	Qty -022	Qty -049	Part Number	Description
*22A	1	1	1	1	1	1	1	D3791-1	WEARPLATE
*23A	1	1	1	1	1	1	1	D3793-1	WEARSHOE (REPLACES D3535-13)
*24A	1	1	1	1	1	1	1	D3793-5	WEARSHOE (REPLACES D3535-25)
*25A	1	1	1	1	1	1	1	D3793-3	WEARSHOE (REPLACES D3535-35)
*26A	34	34	34	34	34	34	34	AN3C5A	BOLT
*27	34	34	34	34	34	34	34	NAS1149C0332R	WASHER
*28	34	34	34	34	34	34	34	ALS4-1032-225	INSERT
*30	8	8	8	8				D3492-041	PLUG ASSEMBLY
*31	8	8						D3492-043	PLUG ASSEMBLY
*32			8	8				D3492-045	PLUG ASSEMBLY
***43	2	2	2	2				D3493-1	WASHER
50	2	2						D3532-1	SPACER
****97					1	1		AN3C34A	BOLT
****98					2	2		NAS1149C0363R	WASHER
****99					1	1		MS21043-3	NUT
100A							4	AN526C1032R10	SCREW
100B							4	AN526C1032R18	SCREW

* PART OF D2750-041/-042, D2750-043/-044 OR D2750-051/-052 ASSEMBLY

** TO BE SUPPLIED BY CUSTOMER

*** ONLY INSTALLED IF INSTALLING A DART FLOAT SYSTEM

**** PART OF D2750-051 OR D2750-052 ASSEMBLY

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Revision: K

Date: 18.04.04

Change Record

PAGE 1 OF 1

Part Number: D350-636-011/-011GB/-012/-012GB

Description: SKIDTUBE STD LH/RH, FLOAT COMPATIBLE[illegible]

